



\*\*FILE\*\* ID\*\*MPWIND

65

MM MM PPPPPP  
MM MM PPPPPP  
MM MM PP PP  
MM MM PP PP  
MM MM PP PP  
MM MM PP PP  
MM MM PPPPPP  
MM MM PPPPPP  
MM MM PP  
MM MM PP

The diagram illustrates the formation of a double helix from four separate strands. On the left, there are four vertical columns of symbols representing the four nucleotide bases: 'L' for Adenine, 'S' for Thymine, 'L' for Guanine, and 'S' for Cytosine. The first column has 12 'L's at the top and 12 'S's at the bottom. The second column has 11 'L's at the top and 11 'S's at the bottom. The third column has 10 'L's at the top and 10 'S's at the bottom. The fourth column has 9 'L's at the top and 9 'S's at the bottom. The strands are arranged such that 'L' is paired with 'S' (Adenine with Thymine, Guanine with Cytosine). The strands are oriented vertically, with the top strand in each group pointing downwards and the bottom strand pointing upwards. The strands are joined together at their ends, forming a central vertical axis where the four strands meet.

0000 1 .TITLE MPWIND - MAP BLOCKS THROUGH FILE WINDOW  
0000 2 :IDENT 'V04-000'  
0000 3  
0000 4  
0000 5 \*\*\*\*\*  
0000 6 \*  
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0000 27  
0000 28 \*\*  
0000 29  
0000 30 FACILITY: F11ACP STRUCTURE LEVEL 1  
0000 31  
0000 32 ABSTRACT:  
0000 33  
0000 34 THIS ROUTINE MAPS THE GIVEN VIRTUAL BLOCK(S) INTO THE  
0000 35 CORRESPONDING LOGICAL BLOCKS.  
0000 36  
0000 37 ENVIRONMENT:  
0000 38  
0000 39 STARLET OPERATING SYSTEM, INCLUDING PRIVILEGED SYSTEM SERVICES  
0000 40 AND INTERNAL EXEC ROUTINES. THIS ROUTINE MUST BE EXECUTED IN  
0000 41 KERNEL MODE.  
0000 42  
0000 43 --  
0000 44  
0000 45 AUTHOR: ANDREW C. GOLDSTEIN, CREATION DATE: 3-MAR-1977 11:15  
0000 46  
0000 47 MODIFIED BY:  
0000 48  
0000 49 \*\*  
0000 50  
0000 51  
0000 52 INCLUDE FILES:  
0000 53  
0000 54 .INCLUDE FCPDEF.MAR  
0000 55  
0000 56  
0000 57 EQUATED SYMBOLS:

0000	58	:
0000	59	: AP OFFSETS
0000	60	:
00000004	61	VBN = 4
00000008	62	WINDOW = 8
0000000C	63	COUNT = 12
00000010	64	UNMAPPED= 16
0000	65	:
0000	66	: DESIRED VBN
0000	67	: WINDOW ADDRESS
0000	68	: BLOCK COUNT TO MAP
		: ADDRESS OF LONGWORD TO STORE
		: COUNT OF UNMAPPED BLOCKS
		; DEFINE WINDOW STRUCTURE
		SWCBDEF

0000 70 :++  
 0000 71  
 0000 72 : FUNCTIONAL DESCRIPTION:  
 0000 73  
 0000 74 : THIS ROUTINE MAPS THE GIVEN VIRTUAL BLOCK(S) INTO THE  
 0000 75 : CORRESPONDING LOGICAL BLOCKS.  
 0000 76  
 0000 77 : CALLING SEQUENCE:  
 0000 78 : CALL MAP\_WINDOW (ARG1, ARG2, ARG3, ARG4)  
 0000 79  
 0000 80 : INPUT PARAMETERS:  
 0000 81 : ARG1: DESIRED VBN  
 0000 82 : ARG2: ADDRESS OF WINDOW TO USE  
 0000 83 : ARG3: NUMBER OF BLOCKS TO MAP  
 0000 84  
 0000 85 : IMPLICIT INPUTS:  
 0000 86 : CURRENT\_UCB CONTAINS UCB ADDRESS OF UNIT IN PROCESS  
 0000 87  
 0000 88 : OUTPUT PARAMETERS:  
 0000 89 : ARG4: ADDRESS OF LONGWORD TO RECEIVE UNMAPPED COUNT  
 0000 90  
 0000 91 : IMPLICIT OUTPUTS:  
 0000 92 : NONE  
 0000 93  
 0000 94 : ROUTINE VALUE:  
 0000 95 : LBN IF ANY BLOCKS MAPPED  
 0000 96 : -1 IF NONE MAPPED  
 0000 97  
 0000 98 : SIDE EFFECTS:  
 0000 99 : NONE  
 0000 100  
 0000 101 :--  
 0000 102  
 0000 103 .PSECT \$CODE\$,NOWRT,LONG  
 0000 104  
 0000 105 MAP\_WINDOW::  
 55 52 08 AC 003C 0000 106 .WORD ^M<R2,R3,R4,R5> : SAVE REGISTERS  
 0000 107 MOVL WINDOW(AP),R2 : GET WINDOW ADDRESS  
 0000 108 MOVL W'CURRENT\_UCB,RS : GET UCB ADDRESS FOR MAPPER  
 51 50 04 AC D0 000B 109  
 0000 110 10\$: MOVL VBN(AP),R0 : GET VBN  
 0000 111 ASHL #9,COUNT(AP),R1 : GET EXPLICIT COUNT  
 0000 112 20\$: JSB #IOC\$MAPVBLK : CALL SYSTEM MAPPING ROUTINE  
 0000 113 BLBC R0,40\$ : BRANCH IF NO MAP  
 001D 114  
 001D 115 : SUCCESSFUL MAP - RETURN LBN AND COUNT OF UNMAPPED BLOCKS IF WANTED  
 001D 116 :  
 10 BC 52 50 51 D0 001D 117 MOVL R1,R0 : LBN TO ROUTINE VALUE  
 F7 8F 0000 118 ASHL #9,R2,&UNMAPPED(AP) : STORE RESULT  
 04 0020 119 30\$: RET : AND RETURN  
 0027 120  
 0027 121 : WE GET HERE IF THE MAP FAILS COMPLETELY. RETURN -1 AS VALUE.  
 0027 122  
 10 BC 50 OC AC D0 0027 123 40\$: MOVL COUNT(AP),&UNMAPPED(AP) : RETURN ENTIRE COUNT AS UNMAPPED  
 01 CE 002C 124 MNEGL #1,R0 : VALUE = -1  
 04 002F 125 RET  
 0030 126

MPWIND  
V04-000

- MAP BLOCKS THROUGH FILE WINDOW

K 5

16-SEP-1984 00:44:22 VAX/VMS Macro V04-00  
5-SEP-1984 01:08:38 [F11A.SRC]MPWIND.MAR;1

Page 4  
(2)

0030 127  
0030 128  
0030 129

.END

PM  
VO

```

AQB_TYPE          = 00000005
BITMAP_TYPE      = 00000001
COUNT            = 0000000C
CURRENT_UCB      = 00000002
DIRECTORY_TYPE   = 00000002
FCB_TYPE         = 00000000
HEADER_TYPE      = 00000000
INDEX_TYPE       = 00000003
IOC$MAPVBLK     = 00000003
MAP_WINDOW        = 00000000 RG X 02
MVL_TYPE         = 00000004
RVT_TYPE         = 00000003
UNMAPPED         = 00000010
VBN              = 00000004
VCB_TYPE         = 00000002
WCB_TYPE         = 00000001
WINDOW           = 00000008

```

+-----+  
! Psect synopsis !  
+-----+

PSECT name	Allocation	PSECT No.	Attributes													
ABS .	00000000	( 0.)	00 ( 0.)	NOPIC	USR	CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT	NOVEC	BYTE		
\$ABSS	00000000	( 0.)	01 ( 1.)	NOPIC	USR	CON	ABS	LCL	NOSHR	EXE	RD	WRT	NOVEC	BYTE		
\$CODES	00000030	( 48.)	02 ( 2.)	NOPIC	USR	CON	REL	LCL	NOSHR	EXE	RD	NOWRT	NOVEC	LONG		

+-----+  
! Performance indicators !  
+-----+

Phase	Page faults	CPU Time	Elapsed Time
Initialization	36	00:00:00.08	00:00:01.23
Command processing	139	00:00:00.77	00:00:04.45
Pass 1	142	00:00:01.64	00:00:06.04
Symbol table sort	0	00:00:00.07	00:00:00.09
Pass 2	39	00:00:00.60	00:00:02.48
Symbol table output	4	00:00:00.02	00:00:00.06
Psect synopsis output	1	00:00:00.02	00:00:00.06
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	364	00:00:03.21	00:00:14.50

The working set limit was 1050 pages.

6379 bytes (13 pages) of virtual memory were used to buffer the intermediate code.

There were 10 pages of symbol table space allocated to hold 97 non-local and 4 local symbols.

232 source lines were read in Pass 1, producing 13 object records in Pass 2.

12 pages of virtual memory were used to define 11 macros.

+-----+  
! Macro library statistics !  
+-----+

Macro Library name

-S255\$DUA28:[SYS.OBJ]LIB.MLB;1  
-\$255\$DUA28:[SYSLIB]STARLET.MLB;2  
TOTALS (all libraries)

Macros defined

1  
3  
4

139 GETS were required to define 4 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LISS:MPWIND/OBJ=OBJ\$:MPWIND MSRC\$:FCPPRE/UPDATE=(ENH\$:FCPPRE)+MSRC\$:MPWIND/UPDATE=(ENH\$:MPWIND)+EXECMI\$/LIB

0166 AH-BT13A-SE  
VAX/VMS V4.0

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MODIFY  
LIS

REQUE  
LIS

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LIS

SCHFCB  
LIS

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LIS

MPWIND  
LIS

MAPUBN  
LIS

PMS  
LIS

ROHEDR  
LIS

RWUB  
LIS

SMALOC  
LIS

ROBLOK  
LIS

RETDIR  
LIS

MOUNT  
LIS

NXTHOR  
LIS

MARKHIB  
LIS

MAKSTR  
LIS